AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings in the application:

1. (Currently amended) A method of orienting a spherical object, comprising:

acquiring an image of a spherical object at an imaging station;

analyzing the image with a first computer to determine an orientation analysis;

transferring the object from the imaging station to orienting stations using a transfer mechanism, the transfer mechanism comprising a rotary indexer having multiple extendable vertical arms, each arm having a vacuum cup for picking-up, holding and carrying the object to a station using vacuum suction so the object does not rotationally slip during transfer from station-to-station; and

orienting the object to a predetermined orientation at each orienting station according to the orientation analysis;

wherein the orienting stations comprise first, second, and third stations, each station having a rotating object holder with a vacuum cup for receiving the object from the vacuum cup of the rotary indexer and rotating the object about a single axis; the first, second, and third stations collectively orienting the object by rotation about axes that are alternately perpendicular.

2. (Original) The method of claim 1 wherein the object is a golf ball.

3. (Canceled)

4. (Previously presented) The method of claim 1, wherein the rotary indexer is a cam-driven mechanical indexer.

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Previously presented) The method of claim 8 wherein the vacuum cup of the rotating object holder has an internal cup diameter approximately equal to an outside diameter of the object, and the object helps to guide the vacuum cups of the extendable vertical arms of the rotary indexer to the vacuum cups of the rotating object holder.

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Original) The method of claim 1 wherein at least one of the orienting stations is at least partially mounted onto the transfer mechanism.

15. (Original) The method of claim 14 wherein the second station comprises a spindle mounted onto the transfer mechanism.

16. (Original) The method of claim 15 wherein a motor mounted on the transfer mechanism rotates the spindle to rotate the object.

17. (Original) The method of claim 16 further comprising acquiring an image of the object as the motor rotates the object.

18. (Original) The method of claim 15 further comprising driving the spindle with a friction wheel to rotate the object.

19. **(Original)** The method of claim 15 further comprising magnetically coupling a motor onto the spindle to rotate the object.

20. **(Canceled)**

21. **(Original)** The method of claim 15 further comprising sliding the spindle into an engaged position wherein a motor is coupled to the spindle as the spindle slides into the engaged position.

22. **(Original)** The method of claim 21 wherein the spindle engages the motor through a blade and slot mechanism while the transfer mechanism indexes the object.

23. **(Original)** The method of claim 1 further comprising alternating a flow of data from the imaging station to the first computer with a flow of data from the imaging station to a second computer.

24. **(Original)** The method of claim 1 further comprising sending image data from the first computer to a second computer that computes and communicates the analysis to the orienting stations.

25. **(Original)** The method of claim 1 wherein two of the three alternate perpendicular axes are vertical.

26. **(Canceled)** The method of claim 1 wherein two of the three alternate perpendicular axes are horizontal.

27. **(Currently amended)** A method of orienting a spherical object, comprising:
acquiring an image of a spherical object at an imaging station;
analyzing the image with a first computer to determine an analysis;

transferring the object from the imaging station to orienting stations using a transfer mechanism, the transfer mechanism comprising a rotary indexer having multiple extendable vertical arms, each arm having a vacuum cup for picking-up, holding and carrying the object to a station using vacuum suction so the object does not rotationally slip during transfer from station-to-station; and

orienting the object to a predetermined orientation at each orienting station according to the analysis,

wherein the orienting stations comprise first, second, and third stations, each station having a rotating object holder with a vacuum cup for receiving the object from the vacuum cup of the rotary indexer.

28. (Canceled)

29. (Canceled)

30. (Previously presented) The method according to claim 27 wherein the vacuum cup of the rotating object holder has an internal cup diameter approximately equal to an outside diameter of the object, wherein the object helps to guide the vacuum cups of the extendable vertical arms of the rotary indexer to the vacuum cup of the rotating object holder.

31. (Original) The method according to claim 27 wherein at least one of the orienting stations is at least partially mounted onto the transfer mechanism.

32. (Original) The method of claim 31 wherein the at least one of the orienting stations comprises a spindle mounted onto the transfer mechanism.

33. (Original) The method according to claim 27 wherein the imaging station is an image acquisition and object orienting station that comprises a gimbaled mechanism that rotates the object about three perpendicular axes without a transfer from one station to another station between the rotations.

34. **(Original)** The method according to claim 27 wherein the object is transferred to an orienting station that has a gimbaled mechanism that rotates the object about three perpendicular axes without a transfer from one station to another station between the rotations.

35. **(Original)** The method of claim 34 wherein an automated transfer mechanism transfers the object to the orienting station.

36. **(Canceled)**

37. **(Canceled)**

38. **(Canceled)**

39. **(Canceled)**

40. **(Canceled)**

41. **(Canceled)**

42. **(Canceled)**

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